

Important Information

HP StorageWorks ESL Tape Libraries

Partitioning Guidelines

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This document provides information about partitioning an HP StorageWorks ESL9000-Series or ESL E-Series library.

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What is partitioning?

Partitioning allows you to create separate, logical tape libraries from a single physical tape library. Logical libraries (partitions) behave like a physical library to the backup and restore applications. Using the advanced version of Secure Manager in conjunction with HP StorageWorks Command View ESL, you have the option of partitioning an ESL9000-Series or ESL E-Series library. For more information about Secure Manager and Command View ESL, refer to chapter 4, “Advanced Features,” of the *HP StorageWorks Interface Manager and Command View ESL User Guide*.

Benefits

Partitioning has the following benefits:

- **Allows the use of mixed media**—Partitioning a physical library with mixed drive and media types allows the different types of media and drives to be logically separated. This reduces the complexity of configuration within the backup application. Keeping the media and drives separated also greatly reduces the chance of media being inserted or used in the wrong drive.
- **Allows two applications to share one library**—Large datacenters often use more than one backup application to protect their data. Library partitioning provides a practical way to access the physical library from two different applications without conflict. For more information about application support, refer to the EBS compatibility matrix found at the following web site:
<http://h18006.www1.hp.com/products/storageworks/tapecompatibility.html>.
- **Allows two SANs to share one library***—A storage resource, such as an HP StorageWorks ESL E-Series library, can be shared without merging two SANs together. Library partitioning enhances this ability by segmenting the physical library into logical libraries that can be shared between two SANs and their respective backup applications.

Note: * Before two SANs can share one physical library, the library that is being shared must have the robotics controller connected to an HP StorageWorks e2400-160 Fibre Channel interface controller. The ESL E-Series libraries are shipped with the e1200-160 Fibre Channel interface controllers by default, so an upgrade may be required to enable two or more SANs to share the library. For more information about upgrading the interface controller, refer to the *Connecting Two SANs to ESL E-Series Robotics* poster.

Partitioning considerations

When partitioning a library, consider the following:

- An ESL E-Series or ESL9000 library can have up to six partitions. Each partition must have at least one drive and one slot, and can have no more than one picker (also referred to as a robotic device or medium changer) assigned to it. Mailslots are optional.
- Tape drives and “normal” slots can be placed arbitrarily, in any grouping, into any partition, with the following limitations:
 - Up to ten separate, contiguous slot “ranges” (groups) can be assigned to a partition. A range is a slot or contiguous group of slots. For example, selecting slots 1-25 constitutes one range. Selecting slots 1, 6, and 22 constitutes three ranges.

- Up to ten separate, contiguous drive “ranges” (groups) can be assigned to a partition. A range is a drive or contiguous group of drives. For example, selecting drives 1-6 constitutes one range. Selecting drives 1, 3, and 6 constitutes three ranges.
- An unpartitioned library is not the same as having a library with one large partition. Although you could create one large partition, doing so does not have any benefit. You should either create two or more partitions, or not partition the library at all.
- If you choose to partition your library, you must assign each of the library resources to a partition. Any devices that are not assigned to a partition will not be seen by backup software.
- Creating and deleting partitions affects host access configuration. Deleting a partition removes mapping information for that partition.
- Partitions cannot be edited after they have been created. To make changes to a partition, you must delete and recreate it. Refer to the *HP StorageWorks Interface Manager and Command View ESL User Guide* for more information.

Load port considerations

- A load port, which is a collection of mailslots, must be selected as a whole to be in a single partition. The slots of a given load port cannot be divided among partitions.
- In an ESL9000, the load port is not configurable. It is always “on” or available. The load port can be placed into a single partition.
- In an ESL E-Series library, the load ports are configurable and can be configured as follows:
 - Off / allocated as normal slots
 - Left port on, right port as normal slots
 - Right port on, left port as normal slots
 - Both left and right ports on

The left load port alone, the right load port alone, or both load ports can be placed in any given partition. Slots designated as “normal” (that is, not assigned to a load port) can be assigned to partitions arbitrarily, as described in the second bullet of [Partitioning considerations](#).
- In an ESL E-Series library, load port configuration is disabled whenever partitions are created. Partitions must be deleted or disabled before reconfiguring ESL E-Series load ports (ESL9000 load ports are not configurable).

Hardware requirements

To ensure proper operation of a partitioned library, make sure that the library, components, and related software have at least the following minimum firmware or software revision levels:

Table 1: Minimum required firmware and software revision levels

Component	Firmware/software level
ESL 9595/9322	3.48
ESL 9198/9326	3.48
ESL-E 286/322/712/630	2.0
e1200-160	5.6.06
e2400	5.6.06
e2400-160	5.6.06
e2400-FC 2G	5.6.06
Interface Manager card	1140
Command View ESL	1.4.00
Java™ Run Time	1.4.2

- For detailed instructions on how to upgrade firmware, refer to the *HP StorageWorks Interface Manager and Command View ESL User Guide* or to the user guide provided with the respective device.
- To determine the latest supported software and firmware, refer to the EBS compatibility matrix found at the following web site:
<http://h18006.www1.hp.com/products/storageworks/tapecompatibility.html>.
- Firmware can be downloaded from the following website:
<http://www.hp.com/support/cvesl>.

Impact of service repairs on the partitioning configuration

- Replacing or swapping an interface controller (router) has no effect on partitioning. Partition configurations are pushed to interface controllers from the Interface Manager at power-up.
- Replacing or swapping the Interface Manager card has no effect on partitioning as long as the CompactFlash card from the original Interface Manager card is transferred to the replacement Interface Manager card.
- Replacing or swapping the Interface Manager CompactFlash card requires that partitions be reconfigured. Although options are available from the Interface Manager card to save and restore configuration information, this is not recommended because not all configurations are saved in all cases.
- Replacing or swapping a drive has no effect on partitioning. The Interface Manager card maps drives based on location rather than serial number.
- Adding ESL E-Series slot capacity through a Licensed Capacity upgrade requires that partitions be reconfigured because slot numbering changes.
- In an ESL E-Series configuration in which an e2400-160 Fibre Channel interface controller (router) is used in place of an e1200-160 Fibre Channel interface controller, all logical/virtual pickers created through partitioning are assigned to port 0 on the e2400-160. You must enter manual mode during Secure Manager mapping to assign some logical/virtual pickers to port 1. For example, you can create partitions, assign maps to partitions, and enter manual mode to set certain partition pickers to port 1 instead of the default port 0.

Finding additional information

Documentation

In addition to this guide, HP provides the following additional documentation:

- *HP StorageWorks Interface Manager and Command View ESL User Guide*
- *HP StorageWorks ESL E-Series Tape Library User Guide*
- *HP StorageWorks ESL9000 Series Tape Library User Guide*
- *HP StorageWorks Enterprise Backup Solution Design Guide*

Web sites

- The HP storage web site has the latest information on this product, as well as the latest drivers: <http://www.hp.com/country/us/eng/prodserv/storage.html>.
- Information about the HP StorageWorks Enterprise Backup Solution (EBS) can be found at the following web site: <http://www.hp.com/go/ebs>.
- For hardware and software compatibility information, refer to the EBS compatibility matrix found at the following web site: <http://h18006.www1.hp.com/products/storageworks/tapecompatibility.html>.
- For the latest drivers and firmware, as well as manuals and other Interface Manager and Command View ESL documentation, go to the following web site: <http://www.hp.com/support/cvesl>.